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HAYNES AND BOONE, LLP
901 MAIN STREET, SUITE 3100
DALLAS, TX 75202

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/727,667
Filing Date: December 01, 2000
Appellant(s): COLLIGAN ET AL.

James E. Harris
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed November 22, 2006 appealing from the Office action mailed June 13, 2006.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,314,473 B1	Singer et al.	11-2001
5,305,160	Funches et al.	04-1994
6,601,168 B1	Stancil et al.	06-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The text of those sections of Title 35, U.S. Code not included in this action can be found in the office action, mailed November 15, 2005.

Claim Rejections - 35 USC § 103

Claims 1-2, 4-10, 12-18, 20-24, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singer et al. (U.S. Patent No. 6,314,473 B1) in view of Funches et al. (U.S. Patent No. 5,305,160), and further in view of Stancil et al. (U.S. Patent No. 6,601,168 B1).

As to claims 1, 17, and 30-31, Singer teaches a method of providing acoustic management in a computer comprising:

receiving from a user instructions regarding a selected acoustic level via an interface (e.g., col. 6 lines 33-45, and figs. 4-8);

using an acoustic level bar and a computer input device for selecting a desired acoustic level (e.g., col. 6 line 33-col. 7 line 15, and figs. 4-8);

Singer teaches a percentage of a maximum possible acoustic level, the acoustic level selected (e.g., col. 6 line 33-col. 7 line 15, and figs. 4-8); however Singer does not teach a dial to indicate the levels. It is well known and would have been obvious to modify a digital level indicator to an analog dial indicator or vice versa to improve the visualization when working on different screen layouts;

Singer teaches adjusting an operational level of at least one subsystem of the computer to achieve the selected acoustic level (e.g., col. 3 line 65-col. 4 line 13, col. 6 line 33-col. 7 line 15, and figs. 4-8); and Singer also teaches a current system setting of a

hard disk drive (or media drive) in the computer, the hard disk drive including a plurality of preset seek profiles, each having a known acoustic level (Preview mode may also be pre-set to execute automatically each time the GUI settings are altered, e.g., col. 8 lines 43-46 and fig. 4, it means the preview mode is pre-set to a certain level (threshold) on each disk drive based on the user previously defined, and the pre-set level will be saved/stored in the computer memory as the preset data file (profile) to be automatically run to compare the preset data and the current data each time the values in the computer system are changed); and Singer teaches making corresponding adjustments by at least one power management system in the computer (e.g., col. 7 line 62-col. 8 line 8, and figs. 4-8), the system setting determining a power management level (Singer teaches the power consumption and power management level of the computer system can be adjusted via a controller, e.g., col. 7 line 62-col. 8 line 8, and figs. 4-8); and Singer also teaches that the user can maintain a thermal profile manageable by the cooling subsystem operating at the selected operational level (the power-saving mode is set up by a predetermined numbers/functions for the disk drive and power consumption, e.g., col. 7 lines 50-60, and fig. 4).

however, the modified Singer does not teach performing a pre-test to determine current hard disk drive seek settings and current system settings. Funches clearly teaches pre-test a disk drive to determine the actual performance of each zone in a RAM (e.g., col. 9 lines 54-67), and calibration routine is initiated by a system microprocessor whenever the computer is turned on (e.g., col. 10 lines 1-15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have the pre-test and

the calibration to the current system and the hard drive of Funches to the acoustic level control of Singer to allow an operator to easily control, adjust, and monitor the performance of a computer system;

although, the management system of Singer in view of Funches the pre-test to determine current hard disk drive seek settings and current system settings, the system still does not clearly mention performing a post-test to determine if further adjustment is desired. Stancil clearly teaches of changing/adjusting the speed of a device by constantly monitoring an audio noise and temperature of the system (Stancil, Abstract, col. 4 line 44-col. 5 line 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have the post-testing or monitoring the system of Stancil to the modified system of Singer in view of Funches to reduce the audible noise and power consumption in a computer system (Stancil, col. 1 lines 50-53, and col. 2 lines 8-9).

As to dependent claims 2 and 18, Singer teaches the method of claim 1 further comprising:

subsequent to the adjusting, demonstrating to the user the selected acoustic level (e.g., col. 8 lines 1-20).

As to dependent claims 8 and 24, Singer teaches prior to the receiving, displaying a graphical user interface for enabling the user to select an acoustic level (e.g., col. 3 line 65-col. 4 line 13, col. 6 line 33-col. 7 line 15, and figs. 4-8).

As to claims 9-10, they are the equivalent system claims of method claims 1-2 respectively and are rejected under a similar rationale.

As to claim 16, it is the equivalent system claim of method claim 8 and is rejected under a similar rationale.

As to dependent claims 4 and 20, the modified Singer teaches the adjusting an operational level of at least one subsystem or build-in components of the computer (note the rejection of claim 1 above); however, Singer does not clearly teach adjusting the speed of an internal fan of the computer system. Stancil clearly shows adjusting the speed of fans in the computer system (Stancil, e.g., col. 4 line 44-col. 5 line 3).

As to dependent claims 5 and 21, modified Singer in view of Stancil teaches the adjusting an operational level of at least one subsystem of the computer comprises making corresponding adjustments to overall operation of a portion of the computer to maintain a heat production level of the computer at a level that can be managed by the internal fan operating at the adjusted speed (Stancil, e.g., col. 4 line 44-col. 5 line 3).

As to dependent claims 6 and 22, modified Singer in view of Stancil teaches the adjusting an operational level of at least one subsystem of the computer is performed using redefined power management levels of the computer (Singer teaches the power consumption and power management level of the computer system can be adjusted via a controller, e.g., col. 7 line 62-col. 8 line 8, and figs. 4-8).

As to dependent claims 7 and 23, modified Singer in view of Stancil teaches the adjusting an operational level of at least one subsystem of the computer comprises adjusting a speed of a peripheral bus, with corresponding adjustments to a speed of at least one peripheral device connected to the peripheral bus (Stancil clearly teaches of

changing/adjusting the speed of a device by constantly monitoring an audio noise and temperature of the system, e.g., Abstract, col. 4 line 44-col. 5 line 3).

As to claims 12-15, they are the equivalent system claims of method claims 4-7 respectively and are rejected under a similar rationale.

As to claims 32-33, they can be rejected under a similar rationale as claims 1 and 4. Note the rejections of claims 1 and 4 above respectively.

As to claim 34, the modified system does not clearly teach the ability to control the processor fan as claimed; however, it is well known or would have been obvious to apply the similar concept of the system fan, as explained above, to reduce the audible noise and power consumption in a computer system.

As to claim 35, it can be rejected under a similar rationale as claim 8. Note the rejection of claim 8 above.

As to claim 36, the modified system teaches the method further comprising a seek time of the hard disk drive of the computer (Singer, e.g., figs. 3-5).

(10) Response to Argument

A. The Singer Reference:

Singer clearly teaches that the system can be automatically or manually setup/adjusted/predetermined the power consumption, hard drive speed, cooling fan, etc., to coordinate the setup to max the performance and min the cost of power consumption in order to help the user to feel more comfortable in long

hours of using the system with less noise (adjusting the acoustic levels) from the system hardware (e.g., col. 7 line 62-col. 8 line 8, and figs. 4-8).

B. The Funches Reference:

Funches clearly teaches pre-test a disk drive to determine the actual performance of each zone in a RAM (e.g., col. 9 lines 54-67), and calibration routine is initiated by a system microprocessor whenever the computer is turned on (e.g., col. 10 lines 1-15).

C. The Stancil Reference:

Stancil clearly teaches that the system detects and controls both audio noise level and the current temperature of the system (Abstract). The system of Stancil will adjust the fan speeds corresponding to the temperature of the computer system (e.g., col. 5 lines 24-39). Stancil also teaches the system management bus is monitored by the fan control device that slowly and automatically adjusts the fan speed from the previous speed of the fan, which constituted the previous thermal balance for the computer system, to the target fan speed, which constitutes the new thermal balance given the current heat load in the computer system. The fan controller receives the target fan speed from the CPU over the system management bus. Given the target fan speed, the fan controller adjusts the fan speed output from the previous speed towards the target speed slowly such that the audible signature (acoustic/noise levels) associated with accelerating or decelerating the fan is minimized and therefore not made

perceptible, or at least as perceptible, to the computer system user (Summary, and col. 4 lines 43-66).

D. Appellant's Arguments:

i. Singer fails to teach or suggest that when the method adjusts an operational level of a subsystem to achieve a selected acoustic level, and the method also makes corresponding adjustments to a power management system.

Singer clearly teaches that the system can be automatically or manually setup/adjusted/predetermined the power consumption, hard drive speed, cooling fan, etc., to coordinate the setup to max the performance and min the cost of power consumption in order to help the user to feel more comfortable in long hours of using the system with less noise (adjusting the acoustic levels) from the system hardware (Singer, e.g., col. 7 line 62-col. 8 line 8, and figs. 4-8). It clearly means that the seek time, the noise (acoustic levels), and the power consumption settings/levels are simultaneously and respectively changed/adjusted if one of these configuration levels is altered (Singer, col. 8 lines 9-33, figs. 4-8). The single GUI (e.g., figs. 4-8) of Singer can be used to adjust/change the configuration levels (as mentioned above), which will clearly affect the others (the seek time, the noise (acoustic levels), and the power consumption settings/levels). In col. 8 lines 20-33, Singer clearly teaches *"fig. 7 shows the GUI could include separate controllers 50 and 52 for*

reducing both power consumption and noise level, respectively, as a function of seek time. Thus,

(i) as noise level increases, seek time decreases, and vice versa, and

(ii) as power consumption increases, seek time decreases, and vice versa.

The sliding bars shown in FIG. 7 preferably have all the characteristics of that shown in FIG. 4. As shown in FIG. 8, numerical values for noise level and power consumption may be implemented, as in FIG. 5. Here, a numerical value is calculated for seek time as well based on the noise level and power consumption settings, and displayed in the GUI as shown."

ii. *There is no teaching of fan control system to control temperature (not audio level), and peripheral bus.*

Stancil clearly teaches that the system detects and controls both audio noise level and the current temperature of the system (Stancil, e.g., Abstract). The system of Stancil will adjust the fan speeds corresponding to the temperature of the computer system (Stancil, e.g., col. 5 lines 24-39). Stancil also teaches the system management bus is monitored by the fan control device that slowly and automatically adjusts the fan speed from the previous speed of the fan, which constituted the previous thermal balance for the computer system, to the target fan speed, which constitutes

the new thermal balance given the current heat load in the computer system. The fan controller receives the target fan speed from the CPU over the system management bus. Given the target fan speed, the fan controller adjusts the fan speed output from the previous speed towards the target speed slowly such that the audible signature (acoustic/noise levels) associated with accelerating or decelerating the fan is minimized and therefore not made perceptible, or at least as perceptible, to the computer system user (Summary, and col. 4 lines 43-66).

iii. There is no suggestion and motivation to combine Singer and Stancil, or there is no connection between the configurable acoustic levels of Singer and the post-test or constantly monitoring the audio noise and temperature of Stancil.

Singer provides the usages of acceptable threshold and feedback of the computer system to monitor and compare the adjusting/new parameters with the setup/pre-set parameters of the system (e.g., col. 19 lines 13-32, col. 33 lines 31-47). It means the system of Singer constantly monitors/tracks/post-test to make corresponding adjustments to verify the adjusting/new parameters entered by the user are comparable with the system threshold. It is also well known in the art that a computer is setup/configured to monitor and constantly track whether any old/new changes/adjustments associated with that computer hardware and software. Therefore, *the post-test or constantly monitoring the audio noise and temperature of Stancil* just brings more detail evidences showing the

post-test or constantly monitoring the system can be done in any computer system nowadays. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971); and in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Singer, Funches, and Stancil are in the same computer hardware field, which mainly deals with the power consumption, hard drive speed, cooling fan, etc., to coordinate the setup how to max the performance and min the cost of power consumption in

order to help the user to feel more comfortable in long hours of using the system with less noise (acoustic levels) from the system hardware.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Truc T. Chuong
Patent Examiner, AU 2179

Feb. 28, 2007

Conferees:
SPE. Lynne Browne
Appeal Practice Specialist, TQAS 2100

Lynne H. Browne
Appeal Specialist, TQAS
Technology Center 2100

SPE. Weilun Lo
AU 2179

WEILUN LO
SUPERVISORY PATENT EXAMINER